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# भारत का राजपत्र

## The Gazette of India

प्रसारात्मक

### EXTRAORDINARY

भाग II—खण्ड 3—उपखण्ड (ii)

PART II—Section 3—Sub-section (ii)

प्राधिकार से प्रकाशित

PUBLISHED BY AUTHORITY

सं. 613] मई विलासी, सं. मवार, दिसम्बर 13, 1971/अग्रहायण 22, 1893

No. 613] NEW DELHI, MONDAY, DECEMBER 13, 1971/AGRAHAYANA 22, 1893

इस भाग में भिन्न पृष्ठ संख्या दी जाती है जिससे कि यह प्रत्या संकलन के रूप में रखा जा सके।

Separate paging is given to this Part in order that it may be filed  
as a separate compilation

### MINISTRY OF INDUSTRIAL DEVELOPMENT

#### ORDER

New Delhi, the 13th December 1971

S.O. 5497.—Whereas the Central Government has by notified Order No. S.O. 5495 dated the 11th December, 1971, issued under sub-rule (1) of rule 123 of the Defence of India Rules, 1971, declared that certain restrictions imposed by the rules and regulations specified in that Order shall not apply to the loading, unloading, handling, storage, conveyance or importation of ammunition, explosives or inflammable substances in the service of the Union or under instructions given on behalf of Government or for purposes of defence in the ports of Kandla, Bombay, Mormugao, Cochin, Madras, Vishakhapatnam, Paradip and Calcutta;

Now, therefore, in pursuance of sub-rule (2) of the said rule 123, the Central Government hereby makes the regulations as contained in the Schedules to this Order, for regulating the loading, unloading, handling, storage and conveyance of ammunition, explosives and inflammable substances in the said ports, namely:—

#### SCHEDULE I

Regulations for loading, unloading, handling storage and conveyance of explosives in certain ports.

1. (i) These Regulations shall apply for the loading, unloading, handling, storage and conveyance of explosives in the ports of Kandla, Bombay, Mormugao, Cochin, Madras, Vishakhapatnam, Paradip and Calcutta.

(ii) Nothing in these Regulations shall apply to explosives carried in ships for their own defence or which form a normal out-fit of a naval warship or to

ships engaged in the carriage of ammunition, explosives or inflammable substances for purposes, other than those for which a declaration under sub-rule (1) of rule 123 of the Defence of India Rules, 1971 has been made.

2. For the purposes of these regulations—

- (i) "Adviser" or "Adviser, Explosives Handling (Ports)" means the Director of Armament Supply, Naval Headquarters;
- (ii) "barge" means a craft which is used within a harbour area for conveyance of cargo to and from a ship and a dock, pier or jetty;
- (iii) "charge weight ratio" means the percentage of the explosives, incendiary, smoke or pyrotechnic substance in a piece of ammunition or a package in relation to its gross weight;
- (iv) "explosives" include Government explosives and ammunition of all types included in the Classified List of Government Explosives issued by the Storage and Transport of Explosives Committee, Ministry of Defence and explosives included in the Authorised List of Explosives issued from time to time by the Chief Inspector of Explosives in India;
- (v) "Government explosives" mean the explosives belonging to Government or the Armed Forces of the Union or explosives which are in the process of being supplied to Government or to the Armed Forces in pursuance of a contract;
- (vi) "gross weight" means the weight of the explosives, incendiary, smoke or pyrotechnic substance together with the case, envelope or the contravance in which they are contained and of any package thereof;
- (vii) "net explosives content" or "net explosives quantity" means the total net weight of the explosives, incendiary, smoke or pyrotechnic substance in a lot, batch or consignment of explosives;
- (viii) "Port Rules" means the rules for the time being in force in the ports of Kandla, Bombay, Mormugao, Cochin, Madras, Vishakhapatnam, Paradip or Calcutta;
- (ix) "prohibited articles" includes smoking materials, fuzee or any other appliances for producing ignition by explosion or any knife or such other articles made of iron or steel;
- (x) "Safety Class Ammunition" means those explosives which are packed in such a manner that in the event of one igniting, it will neither cause external fire, nor produce missiles, flame or blast of sufficient intensity to communicate to any adjacent packages or injure persons nearby;
- (xi) "Safety distance" means a distance required to be observed in the location or berthing of a ship, barge, building or stack containing explosives from other ships, barges, buildings or road, railways or public utilities so that there will be minimum practical risk to life and property should an explosion or fire occur involving the explosives;
- (xii) "Safety distance categories" means the categories of explosives specified below according to the nature and degree of hazard involved, namely;
  - (a) Category X—explosives which have a fire or a slight explosion risk, or both but the effect of which will be local.
  - (b) Category Y—explosives which have a mass fire risk, or a moderate explosion risk, but not the risk of mass explosion.
  - (c) Category Z—explosives which have a mass explosion risk with serious missile effect.
  - (d) Category ZZ—explosives which have a mass explosion risk and minor missile effect.
- (xiii) "Service Group Number" means the number of the group in which an explosive is included as given in Pamphlet No. 3 of the Storage and Transport of Explosives Committee.
- (xiv) "Shipping category" means the category of explosives other than those of the Safety Class Ammunition, which have been assigned a shipping

category 'B' or 'C' according to the nature and degree of risk involved as defined below:—

*Shipping category 'B'.*—Those explosives which have fire or a minor explosion risk but not the risk of mass explosion. These comprise explosives of safety distance categories X and Y.

*Shipping category 'C'.*—Those explosives which have a mass explosion risk. These comprise explosive of safety distance categories Z and ZZ.

3. All information, including information relating to quantity and types of explosives that may become available with the Ministry of Defence or the Ministry of Shipping and Transport regarding ships bringing cargo of explosives into India shall be communicated by the fastest means of communication to the Adviser.

4. The Embarkation Commandant or his senior representative at a port shall give a notice in writing to the Naval Officer-in-Charge at such port and to the Port Authorities of the expected arrival of a ship carrying explosives as cargo and shall, as soon as possible, communicate to them the following information with respect to such cargo, namely:—

- (a) expected date and time of arrival of the ship carrying the cargo;
- (b) description of the explosives;
- (c) Service Group Number of the explosives;
- (d) quantities of explosives according to shipping categories or safety distance categories;
- (e) full details of the cargo as shown on the ship's manifest and its stowage plan with particular reference to the manner in which the explosives are stowed.

5. Where the Naval Officer-in-Charge of a port is of the opinion that a ship carrying explosives is to be worked in accordance with the provisions of these regulations, he shall, before permitting the working of such ship, take the following matters into consideration, namely:—

- (a) the practical necessity or grave urgency for the loading and unloading of particular cargoes;
- (b) the turnaround of shipping required by operational necessity;
- (c) the practicability or otherwise of loading or unloading a ship in accordance with the Port rules, and
- (d) the risk involved in loading or unloading a ship otherwise than in accordance with the Port rules.

6. The Naval Officer-in-Charge shall furnish forthwith to the authorities specified below a report of the circumstances under which action as required in Regulation 5 has been necessitated—

- (i) the Port Authority,
- (ii) the Embarkation Commandant,
- (iii) the Chief Inspector of Explosives in India,
- (iv) the Adviser, Explosives Handling (Ports).

7. (1) The Central Government shall appoint a Committee to be called the Port Advisory Committee for each of the ports to which these Regulations are applicable, consisting of the following persons, namely:—

- (a) Deputy Conservator of Port or his representative.
- (b) Embarkation Commandant or his representative.
- (c) Representative Officer designated as such under sub-regulation (1) of Regulation 12.
- (d) Port Fire Officer.

(2) The functions of the Port Advisory Committee shall be to tender advice on matters concerning the berthing of the ship and safety in hadling of explosives in the port area under these regulations.

(3) The Naval Officer-in-Charge shall in consultation with the Port Advisory Committee decide—

- (a) the exact place and time of berthing of the ship,
- (b) probable duration for which the ship will be berthed at the particular place and the hours of working of the ship,
- (c) place for the loading or unloading of explosives into or from vehicles, barges or rail wagons,
- (d) special safety precautions or measures required to be taken during the operations of loading or unloading of explosives.

8. The Master of every ship on entering a port shall declare to the pilot or the Examination Officer, as the case may be, whether or not there is a cargo of explosives on board and whether the ship can remain capable of moving under her own steam while in the port.

9. (1) The Naval Officer-in-Charge shall require the Master of a ship through the pilot or the Examination Officer, as the case may be—

- (a) to display—
  - (i) a red flag, not less than 1 metre in length and 1 metre in width, between the hours of sun-rise and sun-set;
  - (ii) a red light between the hours of sun-set and sun-rise which should be so constructed as to give a clear, uniform and unbroken light visible from a distance of 3 kilometres, so long as the ship carrying explosives is in the harbour;
- (b) to keep all hatches covered until he receives permission to open them;
- (c) to keep all fire-fighting hoses rigged up.

(2) The red flag and the red light referred to in clause (a) of sub-regulation (1) shall be displayed on the mast-head of the ship and the red light shall be fixed on a staff 6 metres higher than the deck, so, however, that the red light shall be displayed at a height greater than that of any other light carried by the vessel as navigational aid.

(3) Where the vessel carrying explosives is moored or secured along side another vessel carrying explosives, it shall be sufficient for the purpose of these regulations if the red flag or red light is displayed on the ship having a higher mast.

10. The Master of a ship carrying cargo of explosives shall ensure that at all times while such ship is in the harbour, the ship shall be kept afloat and otherwise so positioned and maintained as to be capable of being moved out on her own steam, at any time if so required.

Provided that if at any time the Master is not able to comply with the provisions of this regulation, he shall forthwith report that fact to the Deputy Conservator who shall take suitable remedial measures in consultation with the Naval Officer-in-Charge.

11. The Master of a ship shall, before the hatches are opened or the loading or unloading of explosives commences, ensure that suitable spark arrestors are fitted on the outlets of ship's funnels, ventilators and outlets of galley smoke pipes.

12. (1) The Naval Officer-in-Charge shall nominate a person possessing technical qualifications and having good experience in handling of explosives in large quantities as Representative Officer.

(2) The Representative Officer shall be responsible for the supervision of loading, unloading, storage in transit and conveyance of the explosives and for all operations involving handling of the explosives and shall be present throughout the period when such work is in progress.

13. (1) The Representative Officer shall hand over to the Master of every ship carrying explosives a copy of these regulations as soon as it is berthed.

(2) The Representative Officer shall compare the manifest and the stowage plan of the ship made available to him by the Embarkation Headquarters with the document available with the Master and discuss with him the arrangements for the discharge of the cargo.

(3) No hatch of the ship containing explosives shall be opened till comparison of the manifest and stowage plan has been made by the Representative Officer.

14. (1) Immediately after a decision has been taken on the particular place where the ship carrying explosives is to be berthed, the Deputy Conservator of the port shall inform the Master of the ship in writing of the fire-fighting facilities available in the area and particularly the telephone number of the Fire Station, location of the fire-alarm boxes and hydrants.

(2) When a ship carrying explosives is berthed on quayside berth, wharf, jetty or pier, the Master of the ship shall immediately appoint an officer of the ship to locate the nearest telephone, fire-alarm box, position of the nearest fire hydrants, and shall ensure that the information so collected is made known to the other officers of the ship.

15. Wherever possible, a direct telephone connection shall be made available on board by the Dock or Traffic Manager and the telephone numbers of the Fire Station, Deputy Conservator of the port and Naval Officer-in-Charge shall be prominently displayed.

16. The Representative Officer shall satisfy himself that all the steps necessary for the loading and unloading of explosives as specified in these regulations have been taken and more particularly the following steps, namely:—

- (i) by the Master of the ship that all ship's funnels, ventilators, galley smoke pipes are covered by suitable spark arrestors to minimise the risk from sparks before any loading, unloading or handling of explosives is commenced.
- (ii) by the Master of the ship to disconnect the ship's wireless and telegraph communication installation.
- (iii) by the Master of the ship and the Civil and Military police to ensure that no fires or naked lights or sources likely to give rise to sparks such as railway locomotives, or mechanically propelled vehicles are present or brought in the vicinity of the ship or place where the loading, unloading or handling of explosives is being carried out.
- (iv) by the Master of the ship, the Port authorities and Fire Service for seeing that hoses have been rigged up and the fire-fighting appliances of the ship and the port including fire-floats, are kept in readiness during the loading and unloading of explosives.
- (v) to ensure that before or during the loading and unloading of explosives into or out of any ship or vehicle, all due precautions have been taken and are enforced to reduce to the minimum the risk of fire or explosion arising in the course of the above operations.
- (vi) to ensure that all the persons engaged in the operation of loading and unloading of explosives carry out the functions assigned to them under proper supervision and are kept under strict control.
- (vii) by the Dock or Traffic Manager to ensure that all personnel employed on handling of explosives are properly supervised to minimise the risk of accident by dropping or rough handling of packages containing explosives.

17. (1) No person shall smoke at or near the place where explosives are being handled, moved, loaded, unloaded or stored.

(2) Any person before going on board a ship carrying explosives or entering any area where explosives are being handled, loaded, unloaded or stored shall deposit all smoking materials, matches, lighters, cigarettes and other prohibited articles in a place approved by the Representative Officer.

(3) The Master of the ship shall earmark a place for smoking by the ship's personnel with the approval of the Representative Officer.

18. (1) No person under the influence of drink or drugs shall be allowed on board or on the wharf, jetty area or railway siding or in the vicinity of a ship into or from which explosives are being loaded or unloaded.

(2) Every person entering an area mentioned in sub-regulation (1) shall be liable to be searched.

19. No petroleum, spirits or other highly inflammable substances shall be handled in the vicinity of the area where explosives are being loaded or unloaded.

20. No cotton waste, oily rags or other material liable to spontaneous combustion shall be allowed in the holds of the ship, trucks and vehicles or other containers, sheds or buildings, in use for conveyance, loading, unloading or transit storage of explosives.

21. (1) All packages containing explosives shall be handled carefully and shall in no case be dragged, thrown or roughly handled.

(2) When explosives are slung from or to a ship, all necessary precautions shall be taken to sling them in such a manner as to effectively prevent the possibility of a fall.

3) "Save all" nets shall be rigged between ship and shore at all hatches where explosives are being loaded or unloaded unless absolutely impracticable.

(4) Cargo nets shall not be used for lifting explosives unless authorised by the Representative Officer.

22. It shall be ensured that all lifting appliances have been tested to safe load.

23. Loading or unloading of explosives shall be carried out between the hours of sunrise and sun-set unless otherwise specifically authorised by the Naval Officer-in-Charge on consideration of operational necessity or urgency in turn-round of shipping.

24. At the end of the day's operations, it shall be ensured that the ship's hatches or holds have been properly closed.

25. 1) No artificial light other than electric light of approved design and in good condition shall be used during the loading and unloading of explosives and all the due precautions shall be taken in arranging the lighting apparatus.

(2) The lighting apparatus, if portable shall be removed from the holds whenever the operation of loading or unloading ceases.

26. Unless required by the exceptional circumstances and so authorised by the Representative Officer, no explosive shall be loaded on any wharf, quay or jetty until the vessel or carriage by which it is to be conveyed or removed therefrom is at the place in readiness to receive it.

27. During loading or unloading of explosives into or from a ship or a vehicle, only the minimum number of vehicles containing explosives necessary for uninterrupted flow of work shall be present alongside the vessel at any time.

28. When the operation of loading or unloading of explosives into or out of any vessel or vehicle has commenced, it shall be carried out to completion with due diligence and despatch.

29. When the loading of vessel or a vehicle with explosives is completed, such vessel or vehicle shall, as soon as reasonably practicable, be taken out of the harbour area.

30. While explosives are being loaded or unloaded from or into railway wagons, a locomotive shall be in readiness at a safe distance to facilitate speedy removal and dispersal of loaded wagons.

31. (1) If at any time during an operation of loading or unloading of explosives into or from a vessel it becomes necessary in exceptional circumstances to suspend operations, all explosives shall be placed under cover on board the ship or in the sheds.

(2) If in the circumstances referred to in sub-regulation (1) explosives have to be left either on the ship's deck or on the wharf quay or jetty, the Master of the ship and the Representative Officer shall take all necessary precautions to guard and protect them in the best possible manner from any damage or from risk of any fire or explosion.

(3) In no circumstances shall service explosives of Groups 1 to 4 or corresponding commercial explosives be left exposed on the ship, dock, or on the wharf, quay or jetty.

32. No lighters or other harbour craft containing explosives shall remain in the docks at night except by written permission of the Naval Officer-in-Charge and subject to such conditions as he may prescribe.

33. The Representative Officer shall issue necessary instructions and ensure that all broken packages and the packages, the contents of which may have been damaged, are carefully set aside and reported to him for special inspection, repacking or disposal.

*Explanation.*—Any explosive or ammunition which has been dropped from any height shall be treated as damaged.

34. If any explosive is found to have escaped from the package in which it was contained, the Representative Officer shall give suitable instructions for the careful collection, destruction or disposal of the loose explosives.

35. Any incidence of accidental dropping of a package containing explosives into the sea shall be immediately reported by the Representative Officer to the Naval Officer-in-Charge and to the Deputy Conservator of the port.

36. (1) An effective anti-sabotage and security watch shall be kept at all times while a ship or vehicle loaded with explosives is in the harbour area and during the loading and unloading operations.

(2) The Naval Officer-in-Charge shall arrange for adequate security arrangements with the Army Authorities, Civil Administration and Port Authority.

37. The Representative Officer shall furnish to the Naval Officer-in-Charge, the Embarkation Commandant and Port Authority a statement showing the entire stock position of explosives (Group and tonnage-wise) held on board ship, in transit sheds and in any road or rail vehicles present in the harbour area at the end of the day.

38. No repair work of any kind on ships carrying explosives shall be permitted without the permission in writing from the Naval Officer-in-Charge.

39. Repair work which involves welding, burning or any other operation creating a risk of fire shall not be carried out on board any vessel when cargo of explosives is on board.

40. Notwithstanding anything contained in these regulations, all persons taking part in the loading or unloading of explosives into or out of any ship or vehicle shall during the continuance of such operations observe all due precautions for the prevention of accidents by fire or explosion, and in particular shall abstain from any act which may tend to cause fire or explosion and all such persons shall use every reasonable endeavour to prevent any other person from committing any such act and also to prevent any unauthorised person from approaching or being near the explosives.

41. (1) These regulations shall also apply to ships carrying explosives which may not be intended for discharge at the port.

(2) In case of ships referred to in sub-regulation (1), if the upper hatch covers of the hold or holds containing explosives are not opened, it will not be necessary to appoint a Representative Officer.

Provided that the Naval Officer-in-Charge may impose such restrictions as he may deem fit in the interest of safety in the berthing or mooring of such ships in the harbour and on the discharge of any other cargo carried by them in the port.

42. It shall be the duty of the Port Safety Officer to render all possible assistance to the Representative Officer in matters of general safety.

43. (a) Tables of safety distances for explosives ships|barges to other explosives ships/barges to prevent (i) direct propagation (ii) damage to hull or machinery of the ship, shall be as contained in Annexure 1.

(b) Tables of safety distances for explosives ships|barges to shore installations and oil tankers shall be as contained in Annexure 2.

(c) Peace time explosive limits and safety distances at different ports shall be as contained in Annexure 3.

(d) Emergency explosive limits and special precautions shall be as contained in Annexure 4.

(e) Limitations of different ports for handling explosives shall be as contained in Annexure 5.

44. The Classified List of Government Explosives and Authorised List of Explosives indicating (i) safety distance category (ii) shipping category and (iii) fire-fighting class would be available on demand from the Secretary, Storage and Transport of Explosives Committee, Research and Development Organisation (RD-20), Raksha Mantralaya, New Delhi-11 and the Chief Inspector of Explosives in India, Department of Explosives, Nagpur.

45. The Naval Officer-in-Charge shall issue Standing Orders with respect to his harbour or port based on these regulations.

46. (1) Where the limitations stipulated in Annexure 4 of this Schedule with regard to the maximum quantities of explosives of different shipping categories in any single vessel and with regard to any port cannot be complied with, the Naval Officer-in-Charge shall report all such cases by the fastest means of communication to the Adviser.

(2) The Adviser shall, on receipt of such communication, consult the Chief Inspector of Explosives in India and the Secretary, Storage and Transport of Explosives Committee, whenever such consultation is possible and issue appropriate instructions to the Naval Officer-in-Charge detailing measures of additional safety, security and supervision that may be deemed necessary.

(3) The instructions given by the Adviser under sub-regulation (2) shall be communicated in writing to the Defence Secretary, the Chairman, Storage and Transport of Explosives Committee and the Chief Inspector of Explosives in India.

#### ANNEXURE I

##### *Safety distances in metres from explosives Ships/Barges to other explosive Ships/Barges.*

Net explosives content in tonnes	To prevent direct propagation						To prevent damage to hull of machinery of the ships from explosives
	Explosives below or above water level	Explosives below water level	Explosives partly or wholly above water levels	Z	ZZ	Z	
X	Y	Z	ZZ	Z	ZZ	Z/ZZ	
1	2	3	4	5	6	7	8
25	27	36	24	71	141	106	210
50	27	51	30	89	177	133	270
75	27	62	34	102	202	153	305
100	27	72	37	112	223	167	330
150	27	88	43	128	256	192	380
200	27	101	47	141	281	211	420
250	27	113	51	152	303	227	450
300	27	120	54	160	320	240	480
350	27	130	56	169	340	250	500
400	27	140	59	177	350	270	540
450	27	148	61	184	365	280	560
500	27	155	64	190	380	290	580
550	27	163	66	197	390	295	590
600	27	170	68	202	400	300	600
650	27	178	70	208	415	310	620
700	27	185	71	213	430	320	640
750	27	196	73	218	436	327	659
800	27	202	74	223	446	334	668
850	27	209	76	227	455	341	682
900	27	215	77	231	462	346	692
950	27	220	79	237	474	356	712
1000	27	226	80	240	480	360	720

The distances in Col. 4 do not apply to explosives having a high charge weight ratio. These have been marked with a + in col. 1 of the List of Government Explosives under issue by the Storage and Transport of Explosives Committee to all concerned. In such cases the distances specified in col. 5 must be observed.

## ANNEXURE 2

*Safety distances from explosives Ships/Barges to shore installations, public utilities, oil tankers*

Net explosives content in tonnes	Safety distances in metres to shore Installations & Public Utilities					To oil Tankers Explosives partly below or above water level
	Explosives below or above water level	Explosives below or above water level	Explosives below or above water level	Explosives partly below or above water level	Explosives partly below or above water level	
	Cat.X	Cat.Y	Cat.Z/ZZ	Cat.Z/ZZ	Cat.Z/ZZ	
1	2	3	4	5	6	
25	56	187	650	325	650	
50	60	236	820	410	820	
75	63	270	938	469	938	
100	66	297	1030	515	1030	
150	68	340	1180	590	1180	
200	70	375	1300	650	1300	
250	72	403	1400	700	1400	
300	74	430	1500	750	1500	
350	75	450	1550	775	1550	
400	76	470	1650	825	1650	
450	77	485	1700	850	1700	
500	78	500	1750	875	1750	
550	79	520	1800	900	1800	
600	80	540	1850	925	1850	
650	81	550	1900	950	1900	
700	82	560	1950	975	1950	
750	83	580	2000	1100	2000	
800	85	595	2050	1025	2050	
850	86	605	2100	1050	2100	
900	87	620	2150	1075	2150	
950	88	630	2200	1100	2200	
1000	90	640	2250	1125	2250	

## ANNEXURE 3

*Peace time explosives limits and safety distances for the Different ports*

**A. Bombay**

Not more than 500 tonnes net of explosives shall be held in a ship entering the harbour, subject to the following—

- The quantity of shipping category 'C' explosives shall not exceed 150 tonnes.
- If there are Shipping Category 'B' explosives marked with a double star on board the ship and these are not separated from Shipping Category 'C' explosives either by the boiler room and engine room of the ship or by a hold not containing explosives, they shall also be included in the limit of 150 tonnes stipulated in (a) above.

2. Explosives anchorages shall be used for berthing.

3. Safety Distances to other vessels, oil tankers or shore installations—1150 metres.

4. Not more than 100 tonnes net of explosives shall be held in a barge moving in the harbour subject to the proviso that—

- (a) The quantity of Shipping Category 'C' explosives shall not exceed 25 tonnes net.
- (b) If Shipping Category 'B' explosives with a double star are held along with Category 'C' explosives they shall also be considered as Category 'C' explosives.

5. (a) Safety Distances from one explosives barge to another explosives barge—100 metres.

(b) Safety Distances from one explosives barge to any other vessel or shore installations or oil tanker—625 metres.

#### B. Calcutta

Not more than 500 tonnes net of explosives shall be held in a ship entering the harbour of which there shall be not more than 250 tonnes net of explosives of Shipping Category 'C' subject to the proviso that if there are Shipping Category 'B' explosives with a double star and they are not separated from Shipping Category 'C' explosives either by the boiler room and the engine room of that ship or a hold not containing explosives they shall also be included in the limit of 250 tonnes.

2. Explosives anchorages shall be used.

3. Safety Distances from ship to other ships, shore installations and oil tankers—1370 metres.

4. Not more than 100 tonnes of explosives of which not more than 25 tonnes net of Shipping Category 'C' explosives inclusive if any of Shipping Category 'B' explosives with a double star, shall be held in a barge.

5. (a) Safety Distance from one explosives barge to another explosives barge—100 metres.

(b) Safety Distance from one explosives barge to other ships|vessels, shore installations or oil tankers—625 metres.

#### C. Madras

The Port is basically unsuited for explosives handling.

2. The Explosives Anchorage is located 1370 metres to the north of the harbour entrance.

3. Explosives barges used for discharging explosives from the ship are to be at North Groyne.

4. Not more than 5 explosives barges with explosives contents of 100 tonnes of which not exceeding 25 tonnes net of Shipping Category 'C' explosives inclusive of Shipping Category 'B' explosives with double star may be in North Groyne.

5. The Safety Distance from explosives barge to explosives barge shall be—100 metres.

#### D. Cochin

##### *General Provisions made in 1955*

1. There is no suitable place in the Port area with sufficient all round Safety Distance where explosives ships may be anchored or berthed.

2. In view, however, of the requirements of the Navy for ammunitioning and deammunitioning, a Naval pier has been provided on the south eastern tip of the land under reclamation for the Naval base to handle the inward and onward traffic.

3. A trot has been provided for explosives barges with a clearance of 100 metres to other barges and 625 metres to shore installations.

4. Naval explosives upto 25 tonnes net of Shipping Category 'C' explosives may be handled.

*Special Provisions made in 1968*

1. Quay Berth No. 8—160 tonnes gross of which Shipipng Category 'C' explosives may be 5 tonnes or Shipping Category 'B' with double star may be 10 tonnes.

2. Quay Berth No. 9—Shipping Category 'B' Cat. X-Any Qty. Shipping Category 'B' Capt. Y-100 tonnes, Shipping Category 'C'—5 tonnes

**F**

**E. Vishakhapatnam**

The Port is unsuitable for handling of explosives in any appreciable quantity and even the Naval Jetty on the Western Arm being near the oil tanker berth and the Hindustan Shipyard should be removed.

2. The Navy Jetty may, however, be used for ammunitioning and deammunitioning of Naval vessels lying at the Jetty with explosives of 4 tonnes of Shipping Category 'C' or 10 tonnes of Shipping Category 'B' subject to the following—

- (a) The Jetty shall not be used when the refinery tanker berth nearest to the Jetty is occupied.
- (b) Only the western most part of the 90 metres of the Jetty should be used for handling explosives.

**F. Kandla**

An explosives anchorage with a clearance of 1030 metres to allow of 100 tonnes net of Shipping Cat. 'C' explosives is available.

2. There is, however, no suitable place for moving explosives barges and for landing of the explosives from the barges with adequate safety distances.

3. There is no peace time requirement for handling civil explosives in the port.

4. If any future need arises it is recommended that Jafarwali Bunder be developed to meet such requirements.

**ANNEXURE 4**

*General emergency provisions for explosives Limits and safety distances for all the Ports*

There shall be—

(a) Not more than 5000 tonnes gross of shipping category 'B' explosives of which not more than 500 tonnes may be with double star.

Or,

(b) Not more than 1000 tonnes gross of shipping category 'C' explosives alone.

Or,

(c) Not more than 2000 tonnes gross of shipping category 'B' and 'C' explosives of which not more than 300 tonnes may be shipping category 'C'. This is subject to the provision that (i) shipping category 'B' explosives with a double star shall be treated as shipping category 'C' explosives if not separated from shipping category 'C' explosives by the boiler and the engine room of that vessel or a hold not containing explosives and (ii) the quantity of shipping category 'B' explosives with double star shall not exceed 700 tonnes.

2. When the maximum limits permitted in para 1 above are not adequate for operational reasons and when specially authorised by the Ministry of Defence, the

maximum quantities may be the following in respect of the quantities stipulated in para 1(a) to (c) above:-

- (a) No limit for shipping category 'B' of which those with double star may be up to 1000 tonnes provided such explosives are separated from other explosives by the boiler and engine room or by a hold not containing explosives.
- (b) Not more than 1250 tonnes alone of shipping category 'C' explosives.
- (c) When both shipping categories 'B' and 'C' are present
  - (i) No limit for 'B' provided shipping category 'C' does not exceed 500 tonnes.
  - (ii) Shipping Category 'B' with double star and shipping category 'C' together do not exceed 1000 tonnes provided the two categories are separated from other explosives by the engine room and boiler room of that vessel or by a hold not containing explosives and shipping category 'C' alone does not exceed 500 tonnes.

3. The explosives limits detailed above are in gross weight whereas the safety distances prescribed in Annexures 1 and 2 are for net explosive weights. The following rules shall apply for obtaining the net explosives content from the gross weights:-

- (a) Except as otherwise stated in sub-para (b) below 25 per cent of the gross weight of the various items of explosives given in the Storage and Transport of Explosives Committee's List of Government Explosives and Authorised list of Explosives of the Chief Inspector of Explosives in India shall be deemed to be the net weight.
- (b) (i) Safety Class Ammunition of Group 6 which are marked with a single asterisk (\*) in col. 1 of the Lists of Explosives shall be ignored.
- (ii) 50 per cent of the gross weight of High Capacity 'Y' explosives (marked with a double asterisk in col. 1 of the Lists of Explosives), high charge weight ratio Cat. Z explosives marked with in col. 1 of the Lists and all Category ZZ explosives included in the Lists shall be deemed to be the net weight of explosives.

4. In view of the fact that most consignments of explosives will largely be mixed quantities of different natures and types of ammunition belonging to more than one safety distance category, the prescribed table of safety distances should be made use of judiciously to the best advantage. Once the type, nature and quantities of different explosives involved in a ship are known from the ship's manifest, the safety distances required could be worked out and a clear picture of the extent of any relaxation required to be taken, could be obtained.

5. In selecting the posts for the discharge of explosives cargo, the primary consideration is to choose the port where the handling of explosives will be attended with the minimum risk. On the merits of the case and in consultation with the Port Advisory Committee, the Naval Officer-in-Charge shall decide on the place of berthing of the explosives ships. The possibility of discharging the entire explosives cargo or the most dangerous ones out of the same, in the stream at the explosives anchorages provided would be first explored, failing which the ship may be brought alongside a wharf or harbour wall (not inside an enclosed dock) with minimum risk to other ships/utilities. This also is based on the consideration that the ship contains only explosives of shipping category 'B' and that the discharging of the explosives cargo is considered expedient due to urgent operational requirements or turn round of the shipping. The place should be away from other shipping in the harbour.

6. If this is not possible, the adjacent berth on each end of the ship and the one opposite to the vessel should be kept vacant while the explosives are discharged. If this also cannot be complied with, due to war exigencies, the risk will have to be accepted, but for minimising the hazard on such occasions, extra precautions in handling of explosives and their speedy clearance from the harbour should be taken and strict security vigilance should be exercised.

7. Adequate fire fighting facilities to deal with explosives and other dangerous cargo with necessary and properly trained personnel are required for all ports and should include trailer pumps, fire floats and tugs.

#### ANNEXURE 5

##### *Additional provisions for emergency for the different Ports*

**Bombay.**—There are no proper explosives anchorages with adequate safety distances for handling explosives in quantities above 150 tonnes net of shipping category 'C'. Most of them are also not readily available. Additional explosives anchorages with adequate safety distances be ear-marked in Bombay Port for handling larger quantities of explosives. The explosives will have to be unloaded into barges and taken to Naval Armament Depot Jetty Karanja/Trombay for discharge.

**Calcutta.**—Facilities are inadequate for large scale handling of explosives especially due to the great distance involved in conveying them from Diamond Harbour to the approved locations for discharging of barges. The boat basin at Fuleswar of Hindustan Steel Ltd., half way through may be temporarily suitable for handling of large quantities of explosives with railway lines close by.

**Madras.**—As far as possible, the use of Madras Harbour should be avoided for handling of explosives as it is basically unsuitable for this purpose; under unavoidable circumstances explosives may be handled in emergency on the East Quay, subject to a number of safety conditions.

**Cochin.**—Although this port has got very limited safety distances available for handling any appreciable quantity of explosives of shipping category 'C' explosives; the only places considered for this purpose are berth No. 8 and preferably No. 9, if it has been commissioned.

They are subject to the following conditions:—

- (i) non-use of adjacent berths,
- (ii) flammable/combustible cargo not to be permitted in adjacent transit sheds,
- (iii) provision of sand bag protection in wharf up to water front.
- (iv) security barricade,
- (v) adequate fire fighting facilities, fire float and fire tug, and
- (vi) adequate security precautions.

**Visakhapatnam.**—Is not suitable for handling explosives of shipping category 'C' in quantity but if absolutely essential berth Quay No. 4 in the northern arm, may be used under a number of safety and security conditions with Berth No Q III and J III unoccupied.

**Kandla.**—New Port wharf Berth No. 4 may be used for ships with quantities upto 50 tonnes of shipping category 'C' and any quantity of shipping category 'B' explosives under security. During the operations (i) berth No. 3 must be used (ii) ware-houses located behind berth Nos. 3 and 4 must not be used for any commercial traffic (iii) diagonal traverse of sand bags must be provided between transit shed Nos. 2 and 4 in the quay abutting the water front (iv) the vessel shall be kept on her own steam to facilitate immediate movement (v) maximum fire fighting facilities with trailer pumps/fire floats/fire fighting tugs must be in position during the operations.

**Mormugao.**—No anchorage has been specifically earmarked as explosive anchorage. If and when necessary one of the anchorages for commercial vessels has to be used. This, in fair weather, may be as much 1200 m from Quay side but in monsoon period the distance of a safe anchorage may be only 180 m from the quay. For handling of explosives from barges, no suitable place is available with any safety distance.

A barge trot should be provided at a convenient place in the harbour satisfying the safety distance requirements. Discharge of explosives from the barges

may be carried out at the extreme southern end of the harbour. Explosives discharged from the barges should be loaded into rail wagons which on loading should be loaded into rail wagons which on loading should be removed to a safe place. The major bottleneck of this port is lack of rail transit facilities which

*Mormugao.*—No anchorage has been specifically earmarked as explosive an-  
this port.

*Paradip.*—The port as at present is not served by rail and no transit storage facility for explosives is available near the port. In view of the above, the use of this for large scale handling of explosives will present serious practical difficulties.

[No. F. 11/29/71-LI(II).]  
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